REMARKS

In the non-final office action mailed on June 15, 2006, the Office rejected claims 1, 5, 6, 8-10, 32, 38, 39, 41 and 45 under 35 U.S.C. § 102(e) over Inoue (US 2003/0075805). In response, applicants filed a Request for Reconsideration (filed July 10, 2006) noting that the claims were not anticipated by Inoue because Inoue only describes a plating solution with 5-50% P relative to Co and does not teach or suggest a CoWP film with 13.5 at % to 25 at % phosphorus. In response (present Office Action mailed September 26, 2006), the Office noted that the Applicants' argument "… is not convincing because it is inherent that the at % in the solution will be the same as that in the CoWP film."

In short, the Office concludes that a plating solution with 5-50% P relative to Co will inherently give a deposited CoWP film with 5-50% at % phosphorus. The office has provided no support for reaching this conclusion, and indeed, analysis of the examples given in Inoue disproves this of conclusion.

For example, table 2 of Inoue lists the plating solution concentrations for example 2 which describes the preparation of a CoWB film containing 13.5 at % B (see paragraphs [0240] and [0241]. The at % B in the solution (relative to Co) is calculated as follows:

- 28.1 g/L $CoSO_4 \cdot 7H_2O$ (1 mole $CoSO_4 \cdot 7H_2O$/ 281.1g)(1 mole Co/ 1 mole $CoSO_4 \cdot 7H_2O$) = 0.1 mole Co/L

- 15.0g/L DMAB* (1 mole DMAB/ 58.9g)
(1 mole B/ 1 mole DMAB) = 0.25 mole B/ L

- (0.25 mole B/ 0.1 mole Co + 0.25 mole B) (100%) = 71 at % B in solution

* DMAB is dimethylamine borane ($(CH_3)_2NH \cdot BH_3$)

As the Office will note, the plating solution in example 1 contains 71 at % B but the resulting deposited film contains only 13.5 at % B. A similar analysis for comparative example 2 (see paragraph [0242]) shows that a plating solution containing 50 at % B gives a CoWB film with only 0.5 at % B.

This analysis clearly demonstrates that the elemental ratios of the plating solution do not necessarily give identical elemental ratios for a film deposited from that plating solution. Therefore, the office's conclusion that a plating solution has the same concentration as the deposited film is incorrect. Accordingly, the claimed composite material would not necessarily be anticipated by Inoue based on inherency. Specifically, Applicants note that to be anticipated by inherency the descriptive matter must necessarily be present and inherency may not be established by probabilities or possibilities (MPEP 2112 (IV). Since the conclusion of the Office is based on only possibilities, the claimed composite material would not have been anticipated or obvious over Inoue. Because Inoue does not teach or suggest a CoWP film with 13.5 at % to 25 at % phosphorus, Applicants respectfully request that the examiner withdraw the rejection under 35 U.S.C. § 102(e) over Inoue.

The rejection of claims 2, 3, 33 and 34 under 35 U.S.C. § 103(a) over the combination of Inoue and Lopatin (U.S. 6,528,409) is respectfully traversed.

Lopatin does not overcome the deficiencies of Inoue (discussed above), and therefore, the claimed composite material would not have been obvious over the combination of Lopatin and Inoue. Accordingly, applicants respectfully request that the examiner withdraw the rejection under 35 U.S.C. § 103(a) over Inoue and Lopatin.

In light of the arguments presented above, applicants submit that the application is now in condition for allowance. Favorable reconsideration is respectfully requested.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 50-0510, under Order No. 20140-00308-US1 from which the undersigned is authorized to draw.

Dated: October 24, 2006

Respectfully submitted,

By_____

Donald K. Drummond, Ph.D.
Registration No.: 52,834
CONNOLLY BOVE LODGE & HUTZ LLP
1990 M Street, N.W., Suite 800
Washington, DC 20036
(202) 331-7111
(202) 293-6229 (Fax)
Attorney for Applicant